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MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) COMPLIANCE INSPECTION

CITY OF GRESHAM, OREGON

INSPECTION REPORT

Inspection Dates:
December 4-5, 2012

Report Date:
March 18, 2012

CONTENTS

Section 1.0 Introduction

On December 3-4, 2012, the U.S. Environmental Protection Agency (EPA), Region 10 and an EPA contractor, PG Environmental, LLC (hereinafter, collectively, the EPA Inspection Team) conducted an inspection of the Municipal Separate Storm Sewer System (MS4) Program for the City of Gresham, Oregon. Discharges from the City of Gresham MS4 are regulated under the *National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit,* Permit No. 101315 (hereinafter, the Permit; see Appendix A), issued by the State of Oregon Department of Environmental Quality (ORDEQ) on December 30, 2010. The City of Gresham (hereinafter, the City) maintains coverage under EPA Reference No. ORS108013. The City initially received coverage under an NPDES municipal stormwater permit issued by ORDEQ in 1995.

The Permit covers all existing and new discharges of stormwater from the MS4 within the incorporated areas of the City of Gresham and the City of Fairview. Schedule A.3 of the Permit requires the City to "continue to implement and assess the effectiveness of its Department [ORDEQ] Stormwater Management Plan (SWMP)." Further, Schedule A.4 requires the City to implement a SWMP that outlines practices, techniques, or provisions associated with protecting water quality and satisfying the requirements of the Permit. The City NPDES Permit Coordinator confirmed that the City is currently operating under the *City of Gresham Stormwater Management Plan*, submitted to ORDEQ on April 1, 2011 (hereinafter, SWMP).

The City of Gresham is located about 16 miles east of Portland, Oregon. According to City staff, the City has a population of about 105,000 people and encompasses an area of approximately 23.4 square miles. Receiving waters for the City's MS4 include Fairview Creek, Johnson Creek, Kelly Creek, and Columbia Slough. The City's primary land use is residential (approximately 41 percent) with smaller percentages of commercial, industrial, vacant land, and others. The City has acted as the lead Permit applicant for the Gresham Group for the past five Permit applications. The group formerly included Multnomah County, but has since been reduced to only the Cities of Gresham and Fairview. The City also collates and submits the copermittees' annual reports.

With respect to the Permit, the City of Gresham organization primarily consists of staff in the Department of Environmental Services. The following divisions fall under the Department of Environmental Services: Watershed, Transportation and Development Services, Water, Parks and Recreation, Wastewater Services, and Recycling and Solid Waste Program. City staff explained that the implementation of the SWMP is primarily the responsibility of staff in the Watershed Division. Section 4.3.4 of the City SWMP states that the Watershed Division is responsible for monitoring storm and surface water; erosion control inspection and enforcement; stormwater capital improvements; stormwater operations and maintenance; engineering and flood control; and education and involvement of applicable staff and the general public pertaining to stormwater.

The EPA Inspection Team evaluated facilities, activities, and projects within the City. The inspection focused on two SWMP components described in Schedule A.4 of the Permit:

- Construction Site Runoff Control.
- Illicit Discharge Detection and Elimination (IDDE).

The EPA Inspection Team did not observe deficiencies regarding the City's IDDE Program during the inspection; therefore, no further discussion of this SWMP component is included in this report.

The purpose of the inspection was to obtain information that will assist EPA in assessing the City of Gresham's compliance with the requirements of the Permit and associated SWMP, as well as the implementation status of the current MS4 program. The inspection schedule is presented as Appendix C.

The EPA Inspection Team obtained information through interviews with representatives from the City's Watershed and Water Divisions, along with a series of site visits, record reviews, and field verification activities within the City. The office session was held to obtain information regarding overall program management, program evaluation, and oversight. In addition, on December 5, 2012, the EPA Inspection Team held a closing conference with representatives from the City Watershed Division to review the EPA Inspection Team's preliminary observations.

The primary representatives involved in the inspection were the following:

City of Gresham MS4 Program Compliance Inspection: December 4-5, 2012	
City of Gresham – Watershed Division	Lynn Kennedy, Environmental Program Manager Keri Handaly, NPDES Permit Coordinator Elle Allan, Water Quality Specialist/Watershed Inspector Torrey Lindbo, Water Quality Specialist
City of Gresham – Water Division	Travis Manteith, Inspector
State of Oregon Department of Environmental Quality Representative	Benjamin Benninghoff, MS4 Coordinator

City of Gresham MS4 Program Compliance Inspection: December 4-5, 2012	
EPA Representative	Julie Congdon, MS4 Inspection and Enforcement Coordinator
EPA Contractors	Candice Owen, PG Environmental, LLC Kortney Kirkeby, PG Environmental, LLC

Section 2.0 Information Obtained Regarding Compliance with the Permit

Prior to the inspection, the EPA Inspection Team formally requested that the City provide specific documentation for review by the team and have specific documentation available for review at the time of the inspection. The EPA Inspection Team provided the City with a written list of requested records on November 9, 2012 (hereinafter, EPA Records Request; see Appendix D, Exhibit 1). On November 28, 2012, the City provided the EPA Inspection Team with an email response including electronic copies of the initial documents requested. In addition, the City made additional documents available during the inspection and provided documents on a compact disk and as hardcopy in a packet mailed to the EPA Inspection Team and postmarked January 2, 2013. The complete spreadsheet and associated documents are hereinafter referred to as the City Response Inventory, which is presented as Appendix D, Exhibit 2. The EPA Records Request and City Response Inventory are referenced, as applicable, throughout this inspection report.

During the inspection, the EPA Inspection Team obtained documentation and other supporting evidence regarding compliance with the Permit and implementation of the City SWMP. The presentation of inspection observations in this report does not constitute a formal compliance determination or notice of violation; rather, it identifies potential Permit non-compliance and program deficiencies. Program deficiencies are areas of concern for successful program implementation. All referenced documentation used as supporting evidence is provided in Appendix D, the Exhibit Log; photo documentation is provided in Appendix E, the Photograph Log.

During the inspection, the EPA Inspection Team identified several elements of the City's MS4 Program that were notable, including the following:

1. The City's Department of Environmental Services had been assigned a geographic information system (GIS) staff member from the Mapping Program to support various mapping activities related to Permit compliance including monitoring efforts, public infrastructure mapping, mapping of streams and watersheds, and development of maintenance schedules. City staff stated that the mapping support aided in multiple areas of the program including both the IDDE and Construction Site Runoff Control programs. During the inspection, the City provided multiple examples of maps generated with the assistance of the GIS staff member and also demonstrated the online system that all City staff can access to view City maps.
2. The City SWMP states in Table 4.3.6 that the City's philosophy is to focus primarily on delivery of services that result in behavior change, as opposed to just raising awareness. City staff provided a number of examples of extensive outreach and research that had been conducted to better understand City demographics and associated behaviors. The City uses the results of these efforts to increase public input, education, and participation in the City.

Table 1 provides a summary of the EPA Inspection Team's overall inspection observations. Descriptions and details regarding the inspection observations, as well as supporting documentation, are provided in the applicable sections of this MS4 inspection report.

Table 1. Requirements of the Permit (Permit No. 101315) and potential non-compliance/program deficiencies identified by the EPA Inspection Team

Program Elements and Permit Requirements	Potential Non-compliance/ Program Deficiency
Construction Site Runoff Control (Schedule A.4.c of the Permit) Schedule A.4.c of the Permit states that the City must continue to reduce pollutants in stormwater runoff to the MS4 from construction activities. See Section 2.1 of the inspection report for the specific SWMP and Permit references for each program deficiency or item of potential non-compliance.	1. The City had not revised documented procedures and criteria to accurately reflect on-site inspections performed to ensure that the approved erosion and sediment control plan is properly implemented (Section 2.1.1). 2. Concerns pertaining to erosion prevention and sediment control BMPs were noted during site visits, conducted as a component of the inspection, at private construction sites (Section 2.1.2). See the referenced section of the inspection report for further discussion of these issues.

Section 2.1 Construction Site Runoff Control

Schedule A.4.c of the Permit requires the City to continue to "implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities." Pursuant to the Permit, page 65 of the City SWMP outlines the focus for the City's construction site runoff control program.

On January 2, 2013, the City provided correspondence to the EPA Inspection Team indicating that it had undertaken a number of corrective actions to address several of the observations that were identified during the MS4 inspection (see Appendix D, Exhibit 3). This correspondence also contained requested follow-up information related to construction site inspections including the City of Gresham HTE Inspection Records document (hereinafter, HTE Inspection Records; see Appendix D, Exhibit 7). HTE is the City's permit tracking software that is used to manage and track the construction program.

2.1.1. The City had not revised documented procedures and criteria to accurately reflect on-site inspections performed to ensure that the approved erosion and sediment control plan is properly implemented.

Schedule A.4.c.v of the Permit states that the City must "perform on-site inspections in accordance with documented procedures and criteria to ensure that the approved erosion and sediment control plan is properly implemented." The EPA Inspection Team formally requested "procedures for site inspection of control measures" and "Construction inspection records and documentation (most recent Reporting Year)" (EPA Records Request Nos. 29 and 31). In response, the City provided "Erosion Control Inspection Standard Operating Procedures" (hereinafter, Inspection SOP; see Appendix D, Exhibit 4), the *City of Gresham Erosion and Sediment Control (ESC) Manual* (hereinafter, City ESC Manual; see Appendix D, Exhibit 5), and "2011-2012 EPSC Inspections" spreadsheet (see Appendix D, Exhibit 6).

Pages 67 and 68 of the City SWMP explain that the City conducts initial, interim, and final inspections at all permitted sites. Page 68 of the City SWMP additionally states that the City inspects "all non-permitted sites (< 1acre) regardless of their participation as a larger common plan of development or sale," and that sites are prioritized and targeted for more frequent inspections based on a number of factors. Page 4-5 of the City ESC Manual states that, "The owner/permittee or designated EPSC [erosion protection and sediment control] Manager shall provide ongoing inspections of EPSC BMPs [best management practices] throughout the life of the project."

City staff stated that their protocol for all types of construction site inspections was located in the Inspection SOP. It appeared to the EPA Inspection Team, upon review of the Inspection SOP, that discrepancies existed between the documented procedures and the procedures the City was actually implementing. For example, page 2 of the Inspection SOP states for interim inspections at Single Family Residential Construction (SFRC), the "Watershed Division will conduct inspections once monthly on active permitted sites."

During the inspection, City staff stated that the City did not always adhere to this frequency and that the interim inspections occurred at least once and otherwise occurred as workload allowed. Additionally, City staff stated that the City had developed a procedure for conducting construction site inspections after specific rainfall events; however, this procedure was not documented in the Inspection SOP. The methods used to determine the priorities and frequencies of interim inspections were unclear.

As another example, in reference to Development Engineering, a City group housed within the Transportation Division, EPSC requirements for commercial building, grading, and residential subdivision development, page 4 of the Inspection SOP states:

> Dry season inspections shall occur a minimum of once per week at active construction sites. Inspections shall occur approximately monthly at inactive sites, defined as periods greater than seven consecutive days of inactivity. Wet weather season (Oct. 1-May 31) inspections shall occur a minimum of twice per week at active construction sites. Inspections are required every two weeks at inactive sites, defined as periods greater than seven consecutive days of inactivity.

These requirements for commercial building, grading, and residential subdivision development appeared to the EPA Inspection Team to apply to the Sandy Boulevard Commercial Fill Site visited as a component of inspection field activities; however, City staff stated that since the site only required a grading permit and did not involve public infrastructure, the applicable protocol for site inspections was located solely under Building Department EPSC requirements found on page 5 of the Inspection SOP. This procedure was not clearly documented in the Inspection SOP document.

In summary, the City's Inspection SOP and other documented procedures and criteria are not clear and do not accurately reflect and describe City construction inspection protocol, including inspection frequencies, to ensure that the approved erosion and sediment control plan is being properly implemented.

2.1.2. Concerns pertaining to erosion prevention and sediment control BMPs were noted during site visits, conducted as a component of the inspection, at private construction sites.

According to Schedule A.4.c of the Permit, the City of Gresham must "continue to implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities."

On December 5, 2012, the EPA Inspection Team conducted site visits at five construction sites regulated under the City's construction site runoff control program. The primary purpose of the visits was to observe the City's oversight of and process for inspecting private and City-owned and/or operated construction sites.

The EPA Inspection Team visited the following construction sites:

- Brookside residential development.
- Wilkes Road Improvement capital improvement program (CIP) project.
- Sandy Boulevard Commercial Fill Site.

- Eastmont Estates residential development.
- Main City Park CIP project.

Summary observations pertaining to the site visits to the Brookside, Sandy Boulevard Fill Site, Eastmont Estates, and Main City Park CIP construction projects are presented below due to their direct relevance to City's obligations under the Permit. All referenced photographs are contained in Appendix E, Photograph Log.

Brookside Residential Development – 4077 SW Emerald Lane, Gresham, Oregon

The Brookside residential development project had one residential lot under construction at the time of the inspection (see Appendix E, Photograph 1). The City Watershed Inspector stated that she had performed an interim inspection at the site. The City of Gresham HTE Inspection Records document indicates that the silt fence was observed to be deficient during a random site inspection conducted at the site on October 5, 2012 and that an additional three follow-up inspections (November 27, 28, and 29) were performed to ensure that the contractor had implemented the required erosion protection and sediment control BMPs. The HTE Inspection Records indicate that the City Inspector did not issue an notice of violation (NOV) as a result of inspections conducted on October 5, November 11, or November 27 per the protocol listed in the Inspection SOP. An NOV was issued on November 28, 2012.

The EPA Inspection Team observed the following with regard to erosion and sediment control at the construction site:

1. Disturbed soil was located beyond the silt fence along the southeast perimeter of the site (see Appendix E, Photographs 1 and 2).
2. Soil was observed on the impervious area of Southwest 41st Street adjacent to the southern perimeter of site (see Appendix E, Photograph 3).

Sandy Boulevard Commercial Fill Site – Northeast Sandy Boulevard, Gresham, Oregon

The open fill site located on Sandy Boulevard was composed of two lots; however, only one of the lots was disturbed at the time of the inspection. The project had received coverage under ORDEQ's *National Pollutant Discharge Elimination System Stormwater Construction General Permit No. 1200-C*. City staff stated that the site had received 166,000 cubic yards of fill in the 18 months it had been open. The site had been hydroseeded in the fall of 2012. City staff explained to the EPA Inspection Team that the City received weekly site inspection reports from the contractor responsible for the site, and that the City had assigned a City inspector to monitor the site for implementation of the site's stormwater pollution prevention plan (SWPPP). The HTE Inspection Records state that City staff visited the site in September and October 2012. An Erosion Control Monitoring document completed by the site contractor dated December 4, 2012 (the day prior to the EPA Inspection Team site visit), and submitted to the City was presented to the EPA Inspector Team after the inspection (see Appendix E, Exhibit 8). In the document, the site contractor states that the Geo Jute lined trenches and the straw wattles

on site were at an effectiveness level of "Good;" however, these statements do not reflect the actual site conditions, recorded below, and observed by the EPA Inspection Team during the site visit conducted on December 5, 2012.

The EPA Inspection Team observed the following with regard to erosion and sediment at the fill site:

1. Evidence of erosion was observed in the central area of the site where the erosion control blanket lining in the trench had become unstapled and maintenance was needed per Runoff Control Specification 5 located in the City ESC Manual (see Appendix E, Photographs 4 and 5).
2. Sediment which appeared to have traveled from the areas of erosion near the fallen erosion control blanket up-gradient was present in rock plunge pools on the south side of the site (see Appendix E, Photographs 5, 6, and 7).

Eastmont Estates Residential Development – Southeast Condor Drive, Gresham, Oregon

The Eastmont Estates residential development project had two residential lots under construction at the time of the inspection (see Appendix E, Photographs 8 and 16).

The City Watershed Inspector stated that she had performed an interim inspection the previous Friday [November 30, 2012] at the site. The HTE Inspection Records states that the City had conducted inspections on October 5 and November 9, 2012. Documentation was not provided to the EPA Inspection Team that indicated that a NOV was issued per the City's enforcement protocol listed on pages 7 and 8 of the Inspection SOP. During the November 9 inspection the City inspector noted that silt fence on the site was falling down and needed to be repaired. Narrative in correspondence submitted to the EPA Inspection Team following the inspection states the reasons for the continued lack of correction of BMP deficiencies on the northern site was caused by a mis-entry of the inspection request into the HTE system, and a miscommunication with the site contractor on the required date of compliance.

The EPA Inspection Team observed the following with regard to erosion and sediment at the construction site:

1. The silt fence surrounding the northern perimeter of the site was down in one location, was not entrenched in several locations, and had a large gap between sections (see Appendix E, Photographs 9 through 12). The silt fence needs to be standing, entrenched, and stakes should be wrapped together where fence overlaps per specifications in Sediment Control – 1 of the City ESC Manual.
2. A portable toilet located on the northwest side of the site was not located in secondary containment per Non-Stormwater Pollution Control Specification 15 of the City ESC Manual (see Appendix E, Photograph 9).
3. Sediment was observed on the impervious area next to the silt fence to the north and around the northern and eastern perimeter of the site (see Appendix E, Photographs 9 and 13).

4. Sediment was observed adjacent to two catch basins located on the northeastern and east sides of the site (see Appendix E, Photographs 14 and 15).
5. Sediment tracked off the southern residential construction site trailed into a storm drain located west of the site (see Appendix D, Photographs 16 and 17).

Main City Park CIP project

The Main City Park CIP project entailed the replacement of a bridge that linked the City Park to the Spring Water Trail (see Appendix D, Photographs 18 and 19). At the time of the inspection the site was closed to the public, excavation and heavy machinery were located at the site, and the site had areas of disturbed soil and areas undergoing final stabilization. City staff identified the receiving water for this site as Johnson Creek. The Creek was observed to be flowing with sediment laden water from the recent precipitation. The City attributed this turbidity to agricultural activities in upper areas of the watershed outside of the City.

During the site visit the EPA Inspection Team met with the City Public Works Inspector who demonstrated what he looks for during his inspections of CIP projects. He stated that the Water Division inspector also periodically inspected the site. The City Public Works Inspector stated that he had received Oregon Department of Transportation (ODOT) erosion training classes as well a privately-sponsored erosion training.

The EPA Inspection Team observed the following with regard to erosion and sediment, and pollution prevention at the construction site:

1. The sides of a swale running through the center of the park adjacent to a parking lot were not stabilized (see Appendix D, Photograph 19) as required in the Erosion Prevention Specifications located in the City ESC Manual. The swale flowed to a storm drain that City staff stated had been plugged. The City Inspector noted that the area of the swale and sediment basin adjacent to the storm drain had not been seeded.
2. A soil stockpile located on the site had not been covered or stabilized (see Appendix D, Photograph 20) as required in Erosion Prevention Specification 22 of the City ESC Manual.
3. A portable gasoline container was located near the bridge edge to the water (see Appendix D, Photograph 21).